

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: On page 16, line 14, the word/symbol that appears immediately prior to "filter" is unclear.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 6, 8 and 10-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yokoi et al. (US 2004/0052682).

Yokoi et al. disclose a centrifuging settling tube (Figs. 12, 26) comprising: a bottomed tube (2) closed at a distal end thereof and open at a proximal end thereof; an inner tube (14) constituted of a tube body that is insertable into said bottomed tube and open at distal end and proximal ends thereof and of a ring-like elastic member (15) provided on an outer surface of said distal portion of said tube body; a sealing member (15) capable of sealing a rear end opening of said inner tube; wherein said distal end of the inner tube is spaced at a predetermined interval from a distal end of said bottomed tube, with the inner tube inserted into said bottomed tube; at least during centrifugal separation, said ring-like elastic member is capable of liquid-tightly holding a space between an inner surface of said bottomed tube and the outer surface of said distal portion of said

tube body (page 10, [0146]), said settling tube further comprising a collecting portion formed in a space formed by a surface of a distal end of said ring-like elastic member, an inner surface of a distal portion of said bottomed tube, and an outer surface of a distal portion of said inner tube (Figs. 12 and 26). Yokoi et al. do not disclose in the embodiments of Figs. 12 and 26 a fixing member for removably fixing said inner tube to said bottomed tube.

In another embodiment (Figs. 31 and 32), Yokoi et al. disclose a fixing member (46b) integrally formed with a sealing member (46a) in order to, for example, seal an inner tube and bottomed tube while securing the two tubes together.

Accordingly, it would have been readily obvious for the skilled artisan to modify the tube such that it includes a fixing member integrally formed with a sealing member for example, seal an inner tube and bottomed tube while securing the two tubes together.

Accordingly, it would have been readily obvious for the skilled artisan to modify the tube of Yokoi et al. such that it includes a fixing member for removably fixing an inner tube and a bottomed tube in order to, for example, seal an inner tube and bottomed tube while securing the two tubes together.

Per claims 10-11, 14 and 15, it is submitted that the recitations are of intended use that fail to add structure to the claimed apparatus. Clearly, the elements recited in the claim add no structure to the tube itself. If it is applicant's position that the recitations somehow add structure, it is submitted that the tube of Yokoi et al. is capable of the recited functions.

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4. Claims 2-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yokoi et al. in view of Kabushiki (JP 9-285740).

The tube of Yokoi et al. is described above. Yokoi et al. do not disclose a tapered tube.

In any case, Kabushiki discloses utilizing a tapered tube (16) in order to, for example, facilitate separating a liquid into a lower layer and an upper layer.

Accordingly, it would have been readily obvious for the skilled artisan to modify the tube of Yokoi et al., as modified by Kabushiki such that includes a tapered inner tube in order to, for example, facilitate separating a liquid into a lower layer and an upper layer.

Allowable Subject Matter

5. Claims 5 and 9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. Claims 17-29 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

Per claims 5 and 9, while claim 1 is not patentable for the reasons provided above, in the examiner's opinion, the prior art fails to teach or render obvious the tube further comprising the elements of either claim 5 or claim 9.

Per claim 17, while it is known in the art to provide an organic cell collection tube for removing viruses or bacteria from a liquid containing organic cells and collecting said

organic cells, comprising: a tube having a path penetrating therethrough from one to other ends thereof; a sealing member layer, accommodated in said tube, which contacts a moisture content and is thereby capable of substantially forming a liquid-tight state (see, for example, US 2004/0052682 to Yokoi et al.), in the examiner's opinion, the prior art fail to teach or fairly suggest the tube further including a first aqueous liquid layer which is filled in at a position nearer to one end of said tube than said sealing member layer and spaced at a predetermined interval from said sealing member layer; a first air layer provided between said first aqueous liquid layer and said sealing member layer; a second aqueous liquid layer filled in at a position spaced at a predetermined interval from said first aqueous liquid layer; a second air layer provided between said second aqueous liquid layer and said first aqueous liquid layer; and a viscous substance-containing liquid layer which is provided in contact with said second aqueous liquid layer and captures viruses or bacteria disposed at one end portion of said tube.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to FRED PRINCE whose telephone number is (571)272-1165. The examiner can normally be reached on Monday-Thursday, 6:30-4:00; alt. Fridays 6:30-3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on (571) 272-1166. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Fred Prince/
Primary Examiner, Art Unit 1797